CADD/GIS TECHNOLOGY CENTER
for facilities, infrastructure, and environment

ITAM GIS Applications

SDS Geodatabase Implementation Workshop

National Guard Bureau
Geographic Information System of the Future

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Introduction to the SDSFIE

Objectives

Without the use of training aids, the participant will be able to:

1. **List the five sections of the SDSFIE Data Model**
2. **List the three basic SDSFIE tools that compose the SDSFIE Toolbox**
3. **During directed laboratory activities, browse the SDSFIE**

What are the Spatial Data Standard ?

- **Large scale/high resolution geospatial data content and classification standards for *GIS and AM/FM***
- **An integrated model of multi-thematic data content standards.**
- **An example of a Federal Geographic Data Committee data content standards *implementation*.**

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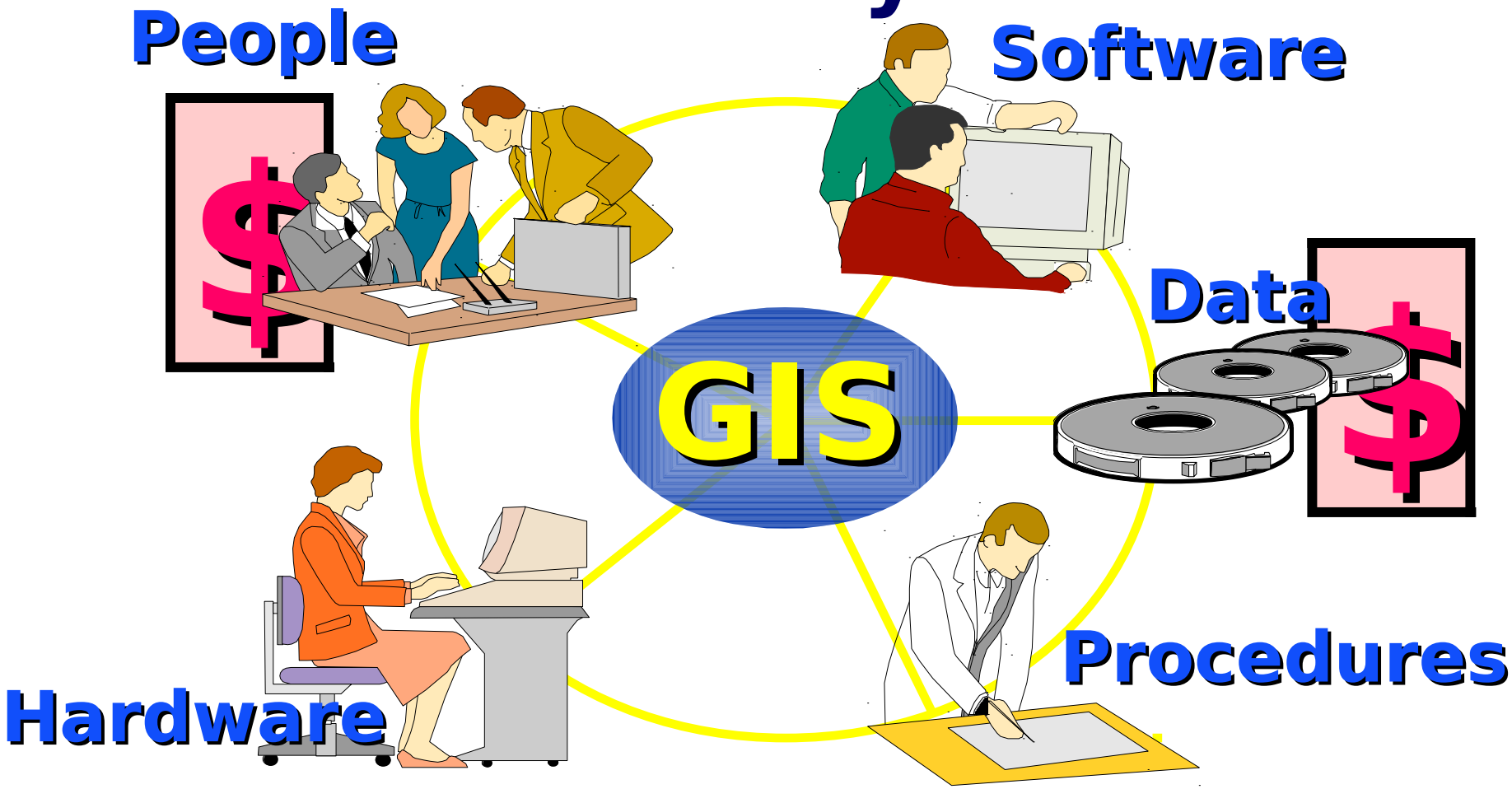
Geographic Information System



SDSFIE User Benefits

- **Standard GIS Data Collection Requirements**
- **<u>One</u> Training Program**
- **Common GIS Workflows for All Services**
- **Standard Implementation Procedures and Requirements**
- **Common Data Model which Permits the Sharing of Data**

SDSFIE Design Considerations

- GIS and CADD Software include:
  - **ESRI** **Intergraph**
  - **Bentley** **AutoDesk**
- Database Application Software includes:
  - **Informix** **Access**
  - **Oracle** **SQLServer**
- Operating Systems include:
  - **Windows 95/98/2000**
  - **Windows NT**
  - **UNIX**

SDSFIE Application

- **Interactive Spatial Data Standards Application**
  - **Self-contained Microsoft Access “Run-Time” Application**
  - **Runs on Windows 95/98/2000 or NT Personal Computer**
  - **No Additional Software Required**
  - **Distributed on the Internet and CD-ROM**
  - **A “Living Application”; Versioning**
  - **Release 2.0 available today**
  - **Most current Version available for download from the CADD/GIS Technology Center Internet Web Site.**

Terminology

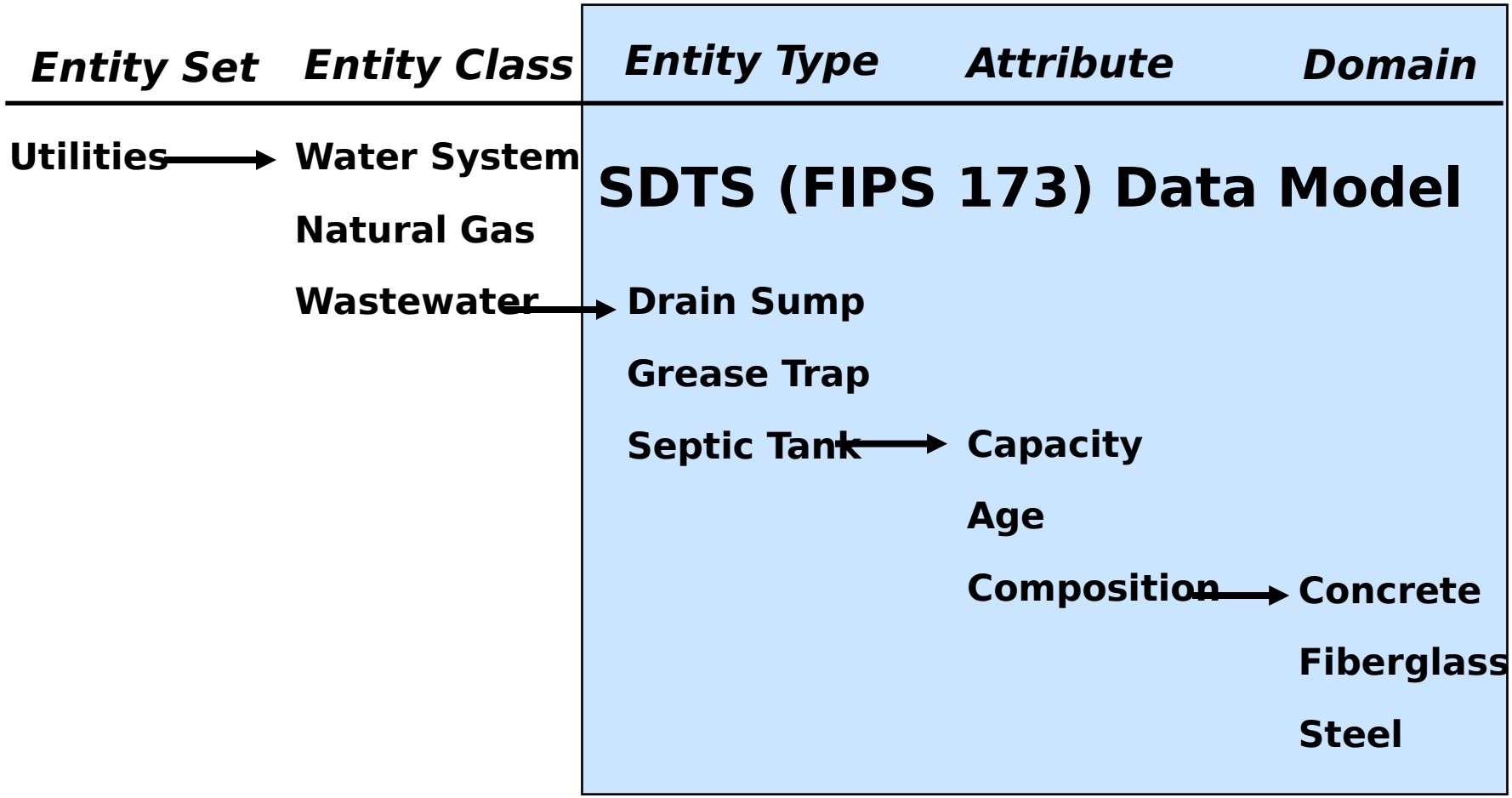
Terminology - ***SDSFIE Software Tools***

- **Library -** The SDSFIE Structure Files (TSSDSLIB, TSSDSDOM, TSSDSFET, etc
- **Release -** A version of the SDSFIE; e.g. 1.95, 2.0, etc
- **Feature -** A spatial object to be placed in the GIS
- **Filter -** A subset of SDSFIE Features
- **Database -** The user database where GIS data is stored
- **GIS Application -** The Geographic Information System Software Application (MGE, ARC/INFO, ArcView, GeoMedia, etc)
- **RDBMS -** Relational Database Management System

SDSFIE Data Model

- **Entity Sets - Broad grouping for data management**
- **Entity Classes - Grouping of data within each Entity Set**
- **Entity Types - Grouping of Items that appear graphically on a map or drawing.**
- **Attribute Tables - A relational database table containing non-graphic information, or attribute data.**
- **Domain Tables - Contains lists of “valid” or “permissible” values for specific attributes in an Attribute Table.**

SDSFIE Data Model



Entity Sets

- Broad grouping for data management purposes
- Entity Sets (26 Themes in SDSFIE Release 2.0)

Landform
Geology
Soil
Hydrography
Transportation
Flora
Fauna
Operations
Climate
Visual
Common
Olfactory
Auditory
Cultural
Land Status
Buildings
Improvements
Utilities
Communications
Boundary
Cadastre
Geodesy
Demographics
Military
Ecology

Entity Classes

- Corresponds to a map file, so it contains CADD layers or levels.
- The SDSFIE is designed to be CADD/GIS platform independent, which means the standards are designed to work with the *most limiting* of the predominant commercially available CADD/GIS platforms which will be used.

Entity Types

- The logical name of a type or object that can be graphically depicted on a map or drawing.
- Grouping or collection of like Items (entities) that appear graphically on a map or drawing.
- Has a corresponding attribute table (database table containing information concerning the entity type).

Attribute Tables

- **A relational database table containing attribute data.**
  - **“Graphic” attribute table - linked to a graphic entity, and contains data describing the graphic entity, along with other data and relationships required for geospatial and relational analysis.**
  - **“Nongraphic” attribute table - contains data and relationships which may be queried for geospatial and relational analysis.**

Domain Tables

- **A relational database table containing lists of permissible values for specific attributes.**
  - **Provides a finite set of “valid” or “allowable” values, and may be enlarged as necessary.**
  - **Includes units of measure, materials, methods, dispositions, classes, status, phase, etc.**
  - **May be either “LIST” or “RANGE”**

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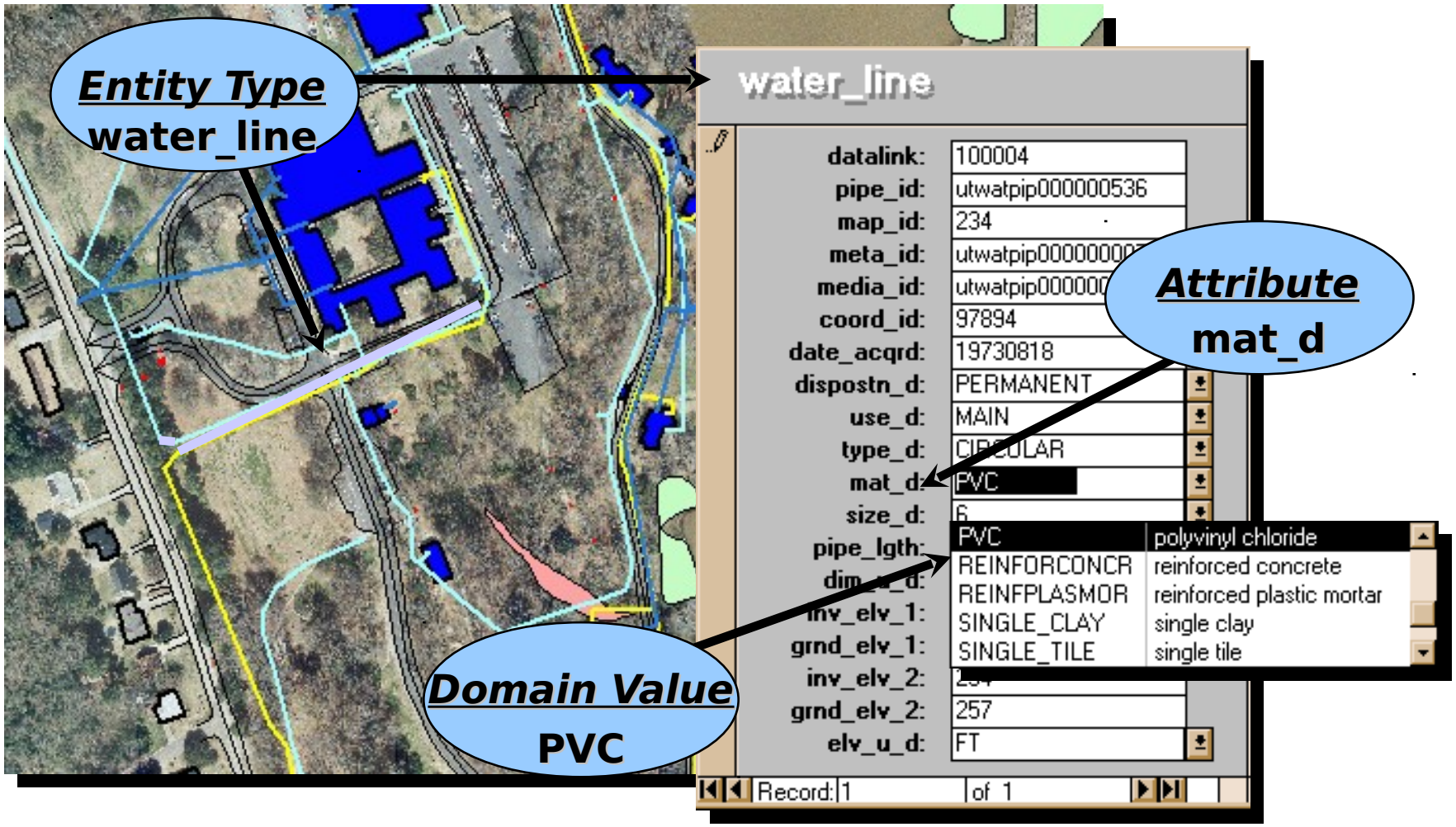
SDSFIE Data Model

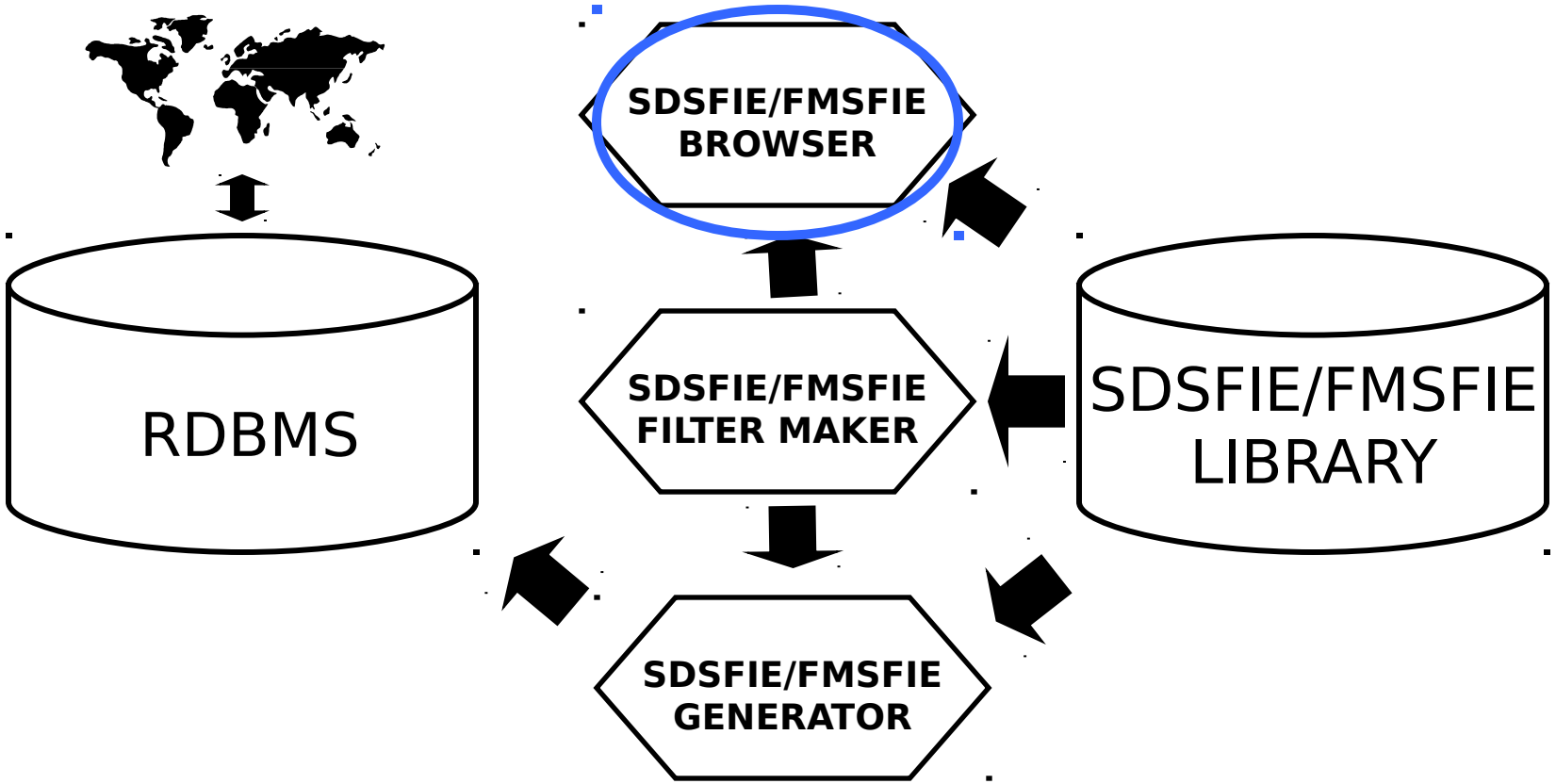


SDSFIE ToolBox

Capabilities - ***SDSFIE Software Tools***

- Finding information in the SDSFIE (Browsing)
- Producing output from the SDSFIE (Printing)
- Customizing a SDSFIE Feature Set (Filtering)
- Building a SDSFIE Compliant Database (Generating)
- Examining a SDSFIE Database (Diagnosing)
- Modifying a SDSFIE Database (Upgrading)

SDSFIE Tools



SDSFIE/FMSFIE Browser

- **Spatial Data Standards “Browser”**
  - **Self-contained Visual Basic Application**
  - **Runs on Windows 95/98 or NT Personal Computer**
  - **No Additional Software Required**
  - **Distributed on the Internet and CD-ROM**
  - **A “Living Application”; Versioning**
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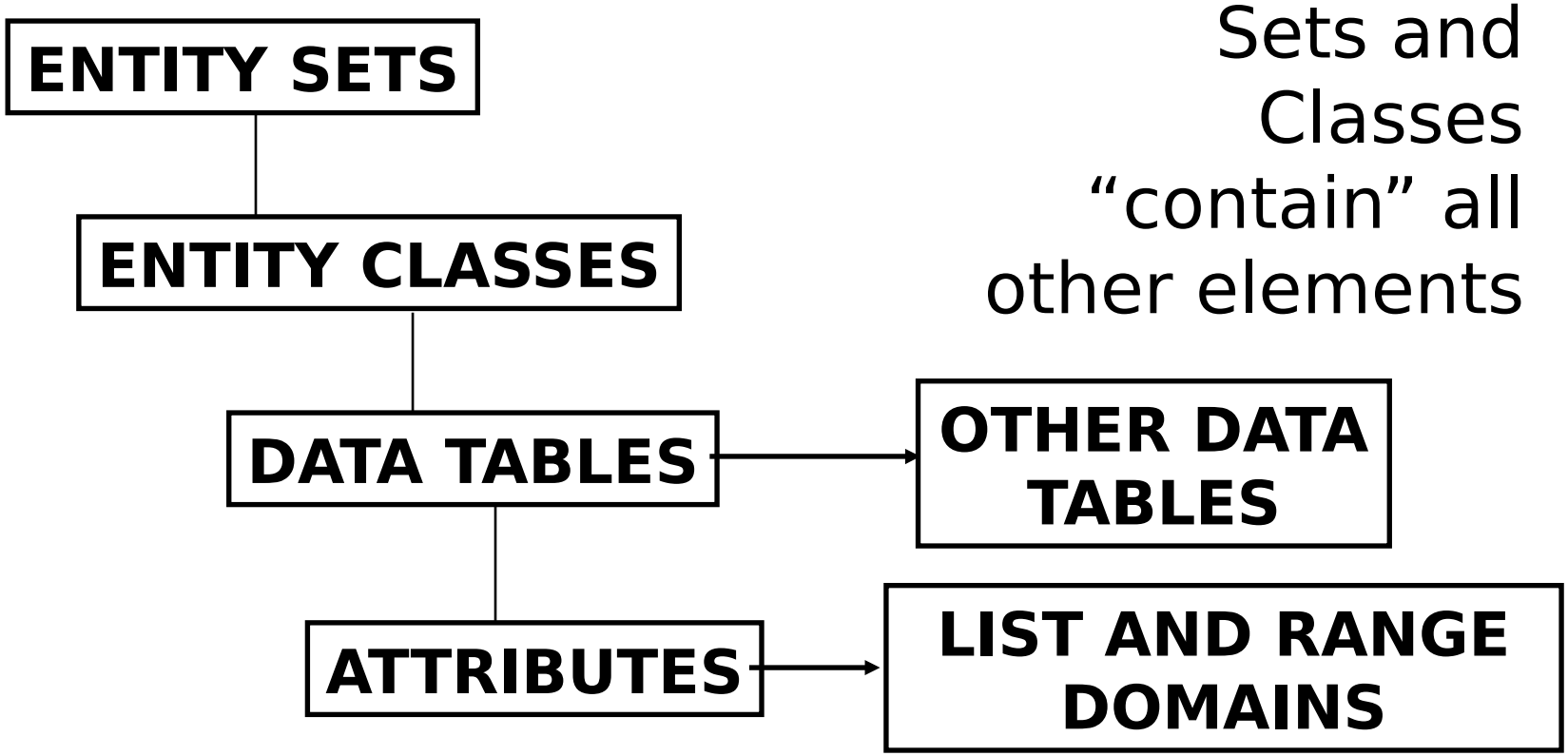
Feature Organization



Sets and Classes "contain" all other elements

Attribute Conventions

End in _D if constrained by a Domain

End in _ID if a Primary or Foreign Key

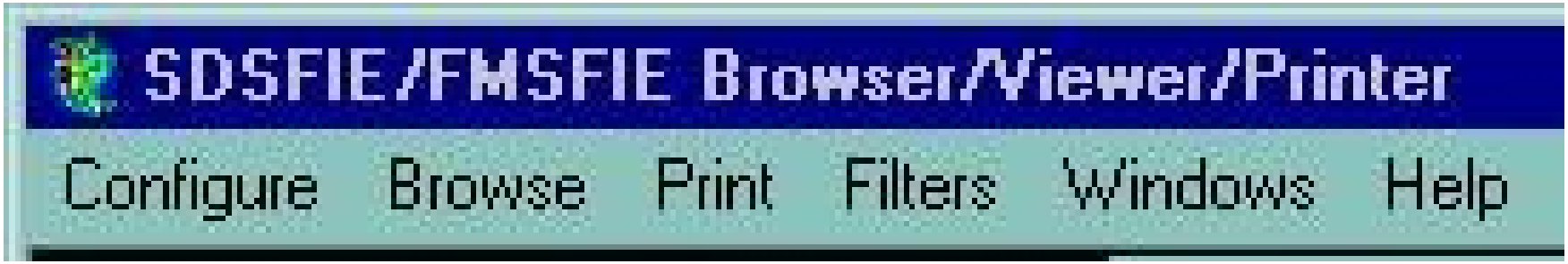
End in _U_D if a “Unit of issue” Domain

Direct “Date” or “Time” format that is Y2K Compliant

Are of “universal” data types

Have a prescribed sequence within a table

SDSFIE/FMSFIE Browser



Connect

Options

Print Setup

Exit

Structure

Feature Name

Feature Alias

Keyword

Data Source

SDSFIE Lab

Let’s do the Browser lab!!!